Moving a cyclotron control room from old to new location with no lost time
Applied Technology Group

- Introduction – who we are, what we do?
- Why do we needed a new control room?
- Cyclotron control room move preparation
- Cyclotron control room move
- Verification, validation
- Conclusion
Introduction
**Applied Technology Group**

- ATG is a TRIUMF’s group operating three cyclotrons
- ATG provides irradiation services for commercial company NORDION
- Beam is used for production of the several isotopes for medical application

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We operate three cyclotrons:
- CP42, 42 MeV up to 200 μAmp – 1981
- TR30-1, 30 MeV up to 1 mAmp – 1991
- TR30-2, 30 MeV up to 1 mAmp – 2003

Small group – 30 people, we operate, maintain/repair all our systems as well as we design and build equipment.

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Three distinctive stages:
1980 – first cyclotron - CP42
1991 – second cyclotron – TR30-1
2003 – third cyclotron – TR30-2
Why do we needed a new control room?
The simple answer is:
the old one is too small
The old control room problems:
- Too small
- Hallway
- Located in the evacuation zone
Old control room
Cyclotron control room move preparation
There was only one requirement:

Move it fast

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Preparation:
- Inventory of the modifications
- Planning the modifications
  - using the cyclotrons maintenance days
- Identifying needed equipment
- Implementing the modifications
- Regulatory requirements
Grey Hill PLC

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Iconic Genesis for Windows HMI

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Regulatory requirements:

- Human Factors Engineering Report
- Verification and validation
Human Factors Engineering Report

Human Machine Interface Systems
Job Design
Operating Experience Review
Physical Working Environment
Human Reliability
Shift Work Systems and Staffing
Validation
Verification

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Move into new control room

- Fast
- Painless
The new cyclotron control room
Verification, Validation
Operators feedback was used to verify and validate that we met all the requirements
- Some small issues identified and corrected

- Alarm panel size identified as a problem
New alarm panel
Move went well, but after ten years in the new (now old) control we discover (surprise) that is small again
Conclusion

Think big
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